

Trend Study 28-16-03

Study site name: Asay Bench.

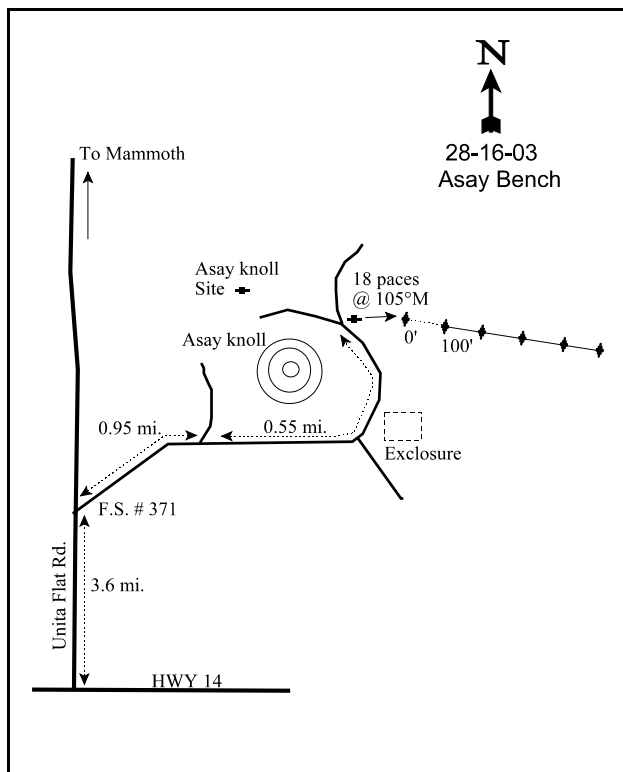
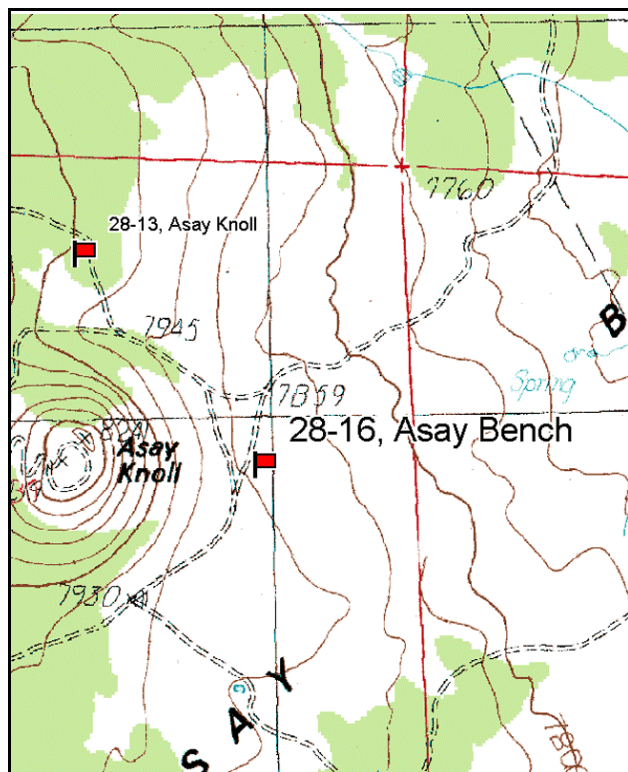
Vegetation type: Mountain Brush.

Compass bearing: frequency baseline 65 degrees magnetic.

Frequency belt placement: line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft). Rebar: belt 3 on 1ft, belt 5 on 1ft.

LOCATION DESCRIPTION

Start at the junction of Highway 14 and Uinta Flat Road. Drive north on Uinta Flat Road for 3.6 miles to a fork going east (F.S. Rd. 371). Drive east for 0.95 miles crossing over a cattleguard and coming to a fork on the left (north). Continue straight (right) for 0.55 miles to a fork (an exclosure should be passed on the right before the fork). The witness post is on the east (right) side of the road just past the right fork. From the witness post the 0-foot stake is 18 paces at 105 degrees magnetic. The 0-foot stake is marked by browse tag #165.



Map Name: Asay Bench

Diagrammatic Sketch

Township 37S, Range 6W, Section 31

GPS: NAD 27, UTM 12S 4156808 N, 361940 E

DISCUSSION

Asay Bench - Trend Study No. 28-16

This study was established in 2003 to replace trend study 28-9 (Asay Knoll) which sampled marginal big game transitional range. This transect was placed just under ½ mile east of the Asay Knoll trend study and samples a mountain brush community dominated by mountain big sagebrush and bitterbrush. The study site slopes gently to the northeast at an elevation of 7,900 feet. Pellet group transect data collected on site in 2003 estimated 20 elk, 19 deer, and 7 cow days use/acre (50 edu/ha, 48 ddu/ha, and 18 cdu/ha). Deer and elk pellets were from winter and spring while cattle pats were from the previous summer.

Soils are derived from basalt parent material and have moderate depth with the effective rooting depth measured at over 11 inches. Soil temperature averaged 61.4°F in 2003. Soils are loam in texture and have a slightly acidic pH (6.2). Bare soil was high at nearly 24% in 2003, while rock and pavement cover were quite low combining for 7% average cover. Erosion is low for the most part although some of the shrub interspaces show shrink and swell cracking. An erosion condition class assessment rated soils as stable in 2003.

Mountain big sagebrush and bitterbrush combined to provide 81% of the total browse cover in 2003. Mountain big sagebrush density was estimated at 6,760 plants/acre in 2003, but mature plants are quite small averaging only 18 inches in height. This population is mostly mature with fair recruitment from the young age class (9%) and low decadence (14%). Utilization on mountain big sagebrush was light to moderate in 2003 and vigor was normal throughout the majority of the population. The sagebrush population had excellent seed production in and annual leaders averaged 1.7 inches. Bitterbrush density numbered 2,120 plants/acre in 2003. This population was highly decadent at 78%, and 1/3 of the population displayed poor vigor. Most of the population displayed heavy use in 2003 and young plants were few (4%). Bitterbrush leaders averaged 2.1 inches of growth in mid-July of 2003. The longest leaders were found growing underneath the canopy where hedging would be difficult. Other browse sampled on the site include snowberry, a few very large serviceberry plants, stickyleaf low rabbitbrush, broom snakeweed, Wood's rose, and gray horsebrush.

The herbaceous understory is moderately diverse but most of the species are not very abundant. Mutton bluegrass is by far the most abundant species in the understory as it provides 71% of the grass cover and 60% of the total herbaceous cover. A total of 11 perennial grasses were sampled in 2003 including prairie Junegrass, Kentucky bluegrass, Sandberg bluegrass, Letterman needlegrass, and needle-and-thread grass. Grasses showed no utilization. The forb component is dominated by annual species primarily littleflower collinsia and little polecat. Several important perennial species that were sampled in low numbers include pale agoseris, sego lily, low fleabane, and redroot eriogonum.

2003 APPARENT TREND ASSESSMENT

Soils were given a stable rating from an erosion condition class assessment. Some of the shrub interspaces showed shrink and swell cracking, but erosion will likely never be excessive due to the abundance of shrub cover as well as the gentle slope. The browse component shows both positive and negative signs. Mountain big sagebrush is very abundant and the population is healthy. Use is light to moderate and decadence is low. Bitterbrush is in poor condition with very high decadence, low recruitment by young plants, and 1/3 of the population is in poor vigor. It should be noted that this area is transitional/summer range at an elevation of 7,800 ft. Sagebrush is less important on transitional and summer ranges as a forage source and as it becomes dense, inhibits more important species, bitterbrush and herbaceous plants. The herbaceous understory appears stable and is dominated by small statured mutton bluegrass, although several other desirable grasses were sampled in low densities. The forb component is dominated by annual species with no perennials being particularly abundant. The combination of drought and a very abundant shrub community are suppressing understory production somewhat.

HERBACEOUS TRENDS --

Management unit 28 , Study no: 16

T y p e	Species	Nested Frequency	Average Cover %
		'03	'03
G	Agropyron dasystachyum	3	.06
G	Agropyron intermedium	3	.03
G	Bouteloua gracilis	1	.00
G	Carex spp.	3	.06
G	Koeleria cristata	109	1.50
G	Poa fendleriana	249	9.31
G	Poa pratensis	11	.60
G	Poa secunda	29	.60
G	Sitanion hystrix	3	.01
G	Stipa comata	24	.34
G	Stipa lettermani	41	.56
Total for Annual Grasses		0	0
Total for Perennial Grasses		476	13.11
Total for Grasses		476	13.11
F	Agoseris glauca	25	.10
F	Antennaria rosea	7	.04
F	Arabis spp.	13	.02
F	Artemisia ludoviciana	15	.11
F	Calochortus nuttallii	18	.03
F	Comandra pallida	3	.03
F	Collinsia parviflora (a)	167	.72
F	Crepis acuminata	3	.01
F	Delphinium nuttallianum	2	.00
F	Erigeron flagellaris	1	.00
F	Erigeron pumilus	35	.10
F	Eriogonum racemosum	6	.03
F	Eriogonum umbellatum	2	.00
F	Gayophytum ramosissimum(a)	85	.24
F	Lactuca serriola	2	.00
F	Microsteris gracilis (a)	166	.84
F	Polygonum douglasii (a)	5	.01
Total for Annual Forbs		423	1.82
Total for Perennial Forbs		132	0.52
Total for Forbs		555	2.34

BROWSE TRENDS --

Management unit 28 , Study no: 16

Type	Species	Strip Frequency	Average Cover %
		'03	'03
B	Amelanchier utahensis	2	-
B	Artemisia tridentata vaseyana	90	13.83
B	Chrysothamnus viscidiflorus viscidiflorus	64	3.49
B	Gutierrezia sarothrae	19	1.33
B	Purshia tridentata	71	14.19
B	Rosa woodsii	2	.03
B	Symphoricarpos oreophilus	7	1.86
B	Tetradymia canescens	1	.03
Total for Browse		256	34.78

CANOPY COVER, LINE INTERCEPT --

Management unit 28 , Study no: 16

Species	Percent Cover
	'03
Amelanchier utahensis	.05
Artemisia tridentata vaseyana	17.11
Chrysothamnus viscidiflorus viscidiflorus	1.93
Gutierrezia sarothrae	.66
Purshia tridentata	10.13
Rosa woodsii	.03
Symphoricarpos oreophilus	1.39

KEY BROWSE ANNUAL LEADER GROWTH --

Management unit 28 , Study no: 16

Species	Average leader growth (in)
	'03
Artemisia tridentata vaseyana	1.7
Purshia tridentata	2.1

BASIC COVER --

Management unit 28 , Study no: 16

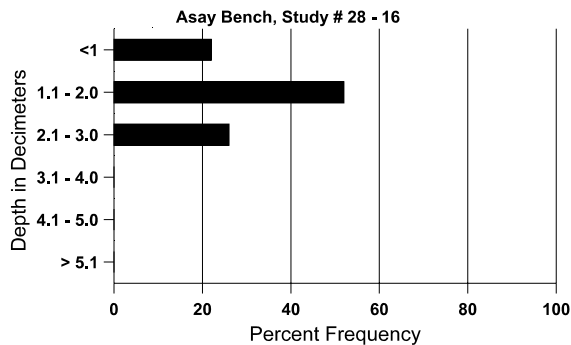
Cover Type	Average Cover % '03
Vegetation	49.34
Rock	5.65
Pavement	1.37
Litter	40.23
Cryptogams	.15
Bare Ground	23.70

SOIL ANALYSIS DATA --

Management unit 28, Study no: 16, Study Name: Asay Bench

Effective rooting depth (in)	Temp °F (depth)	pH	% sand	% silt	% clay	% OM	PPM P	PPM K	ds/m
11.4	61.4 (16.4)	6.2	36.6	39.2	24.2	2.9	28.4	572.8	0.6

Stoniness Index



PELLET GROUP DATA --

Management unit 28 , Study no: 16

Type	Quadrat Frequency '03	Days use per acre (ha) '03
Rabbit	2	-
Elk	12	20 (50)
Deer	5	19 (50)
Cattle	5	7 (18)

BROWSE CHARACTERISTICS --
Management unit 28 , Study no: 16

		Age class distribution (plants per acre)					Utilization				
Y e a r	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% poor vigor	Average Height Crown (in)
Amelanchier utahensis											
03	40	-	-	-	40	-	0	0	100	50	-/-
Artemisia tridentata vaseyana											
03	6760	-	580	5200	980	460	33	2	14	3	18/19
Chrysothamnus viscidiflorus viscidiflorus											
03	5080	-	120	4780	180	-	1	0	4	2	7/9
Gutierrezia sarothrae											
03	2640	-	-	2640	-	-	0	0	-	0	6/7
Opuntia spp.											
03	0	-	-	-	-	-	0	0	-	0	3/9
Purshia tridentata											
03	2120	-	80	380	1660	-	20	77	78	32	19/31
Ribes cereum inebrians											
03	0	-	-	-	-	-	0	0	-	0	41/54
Rosa woodsii											
03	80	-	80	-	-	-	0	0	-	0	5/4
Symphoricarpos oreophilus											
03	200	-	20	160	20	-	0	0	10	0	17/25
Tetradymia canescens											
03	20	-	-	20	-	-	0	0	-	0	9/13